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## Cow Power

Biogas Technology  
Use On The Rise

## RICE NESHAP

Start Preparing Now  
For 2013 Deadline

## IBC Requirements

Complying With Wind  
And Seismic Rules

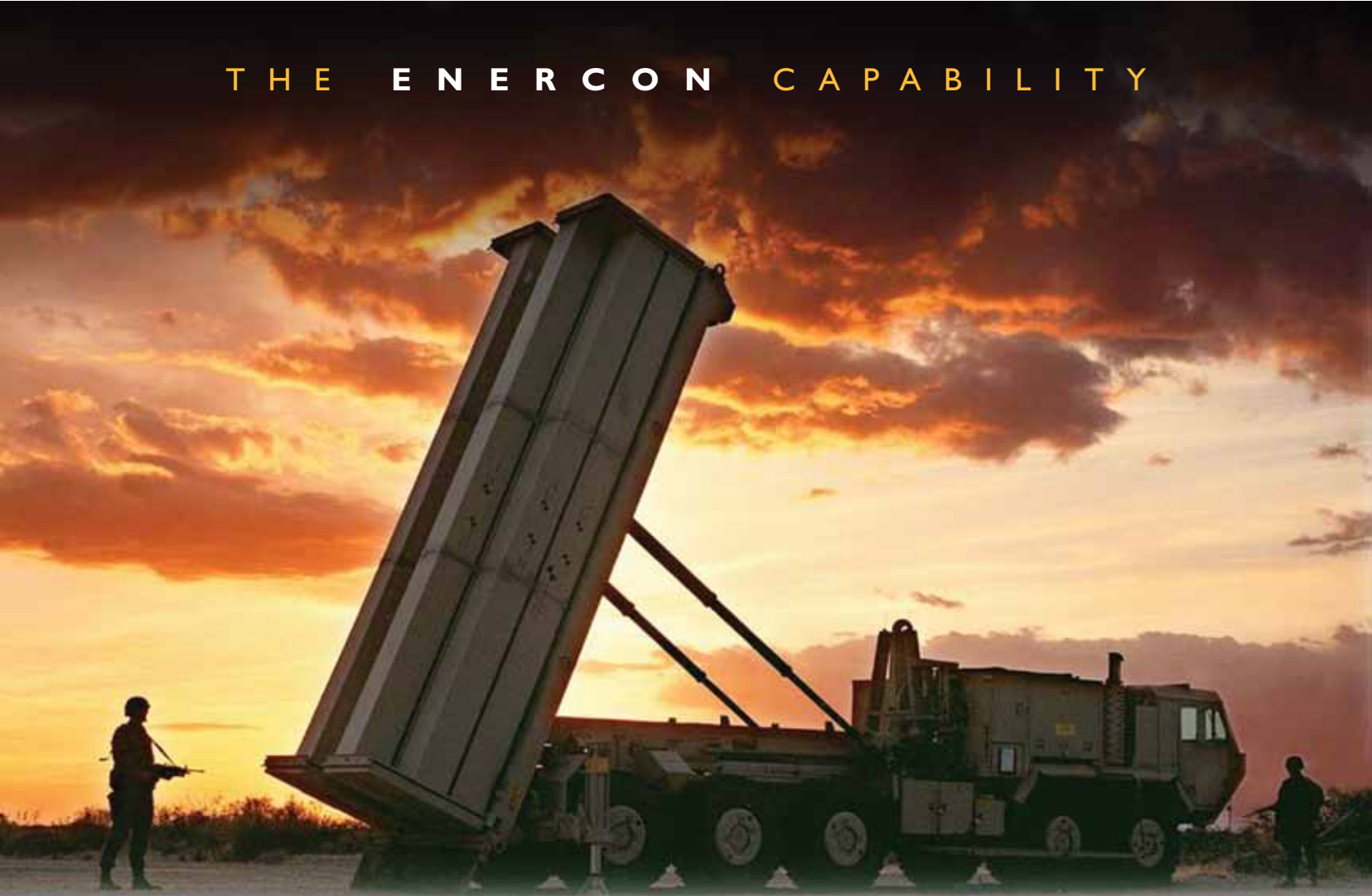
## EGSA News

Conference to Host  
"Power Breakfast"





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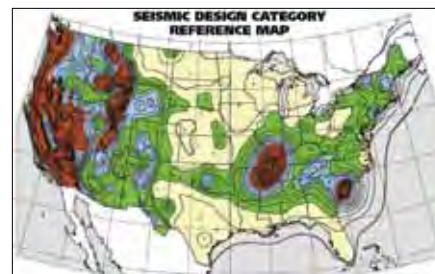
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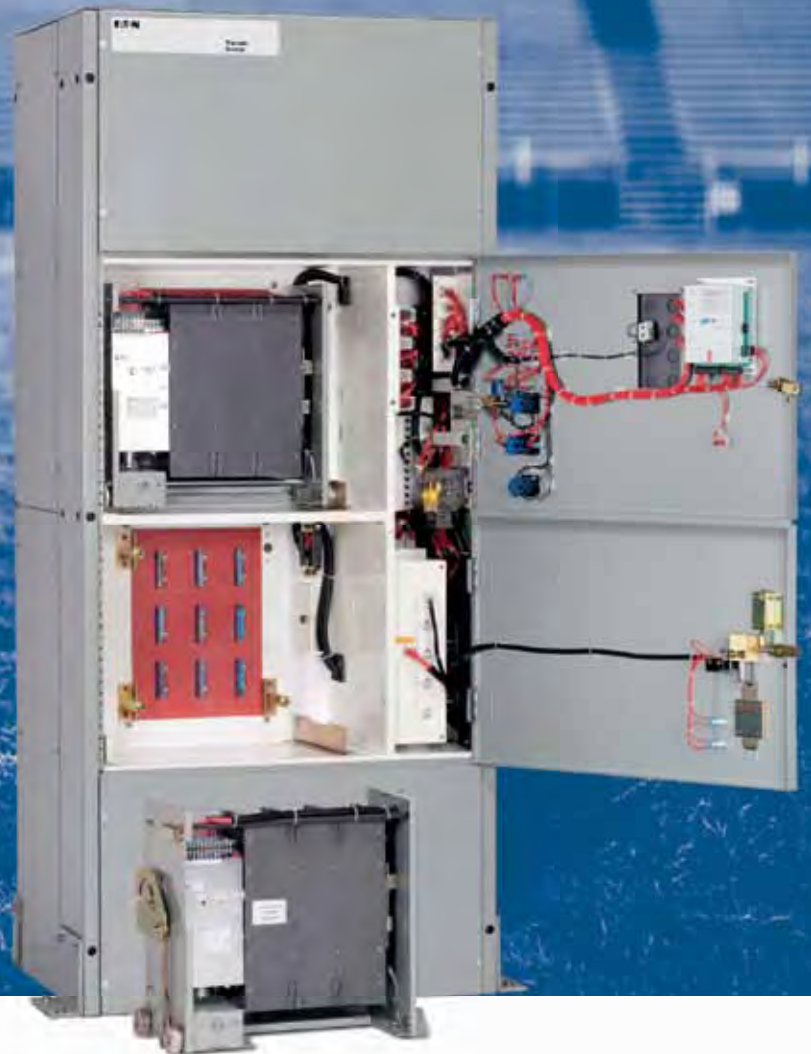
*On the cover: installations in Ukraine, China, India and the U.S. show the rising use of biogas technology; page 18.*



*Understanding the IBC provisions is critical for specifying systems that will continue to operate after an earthquake or hurricane; page 29.*



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## EVENTS CALENDAR

### Industry Trade Shows

#### POWER-GEN Middle East 2010

October 4-6, 2010; Doha, Qatar

The region's leading exhibition and conference for the power generation, transmission and distribution and water industries. To exhibit, contact Denne Johnson at [dennej@pennwell.com](mailto:dennej@pennwell.com)

#### POWER-GEN Asia 2010

November 2-4, 2010; Singapore

The region's leading exhibition and conference for the power generation, transmission and distribution and water industries. To exhibit, contact Kelvin Marlow at [exhibitpga@pennwell.com](mailto:exhibitpga@pennwell.com)

#### POWER-GEN International 2010

December 14-16, 2010; Orlando, FL

The world's largest show for power generation, featuring the EGSA On-Site Power Pavilion. For exhibit information, contact EGSA at (561) 750-5575, ext. 205 or e-mail Jalane Kellough at [J.Kellough@EGSA.org](mailto:J.Kellough@EGSA.org).

#### POWER-GEN India & Central Asia 2011

May 5-7, 2011; New Delhi, India

The region's leading exhibition and conference for the power generation, transmission and distribution and water industries. To exhibit, contact Kelvin Marlow at [exhibitpgica@pennwell.com](mailto:exhibitpgica@pennwell.com)

### Conferences

#### GIE+EXPO 2010

October 28-30, 2010; Louisville, KY

Showcasing outdoor power equipment distributed through dealers, retailers and distributors for consumer, professional and rental use. For information, visit [www.gie-expo.com](http://www.gie-expo.com).

#### EGSA 2011 Annual Spring Convention

March 13-15, 2011; New Orleans, LA

Speakers will cover business and technical aspects of On-Site Power Generation and current industry trends. Registration information will be available online at [www.EGSA.org](http://www.EGSA.org) or by calling (561) 750-5575.

#### EGSA On-Site Power Generation Schools

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2010 EGSA President  
rondhartzel@eaton.com

## The Power to Anticipate Change

**H**uman beings are, among many other things, Hcreatures of habit. We program our daily lives with routines and subroutines of repetitive tasks and activities. A morning cup of coffee, for example, can serve as the foundation for a personal daily routine that can easily become a way of life, thus making that cup of coffee absolutely essential. We cannot start our day without it. Many of us would rather suffer through the occasional bad cup of coffee than go without because the habit is so important to our day.

This is one of the reasons why we don't like change. It's too disruptive. It requires us to shut down our current patterns of behavior and come up with new ways to respond to our surroundings. Change is messy. It makes us think differently and work harder.

Change isn't necessarily positive or negative. It doesn't discriminate between different industries or groups or favor this economy over that. Instead, it's our ability to perceive change and respond to it that will determine the final outcome.

Over the years, our society has survived by adapting and evolving. We've even managed on occasion to anticipate change and prepare for it as a way of mitigating its effects. However, you can't prepare for something you refuse to see.

Environmental concerns have had a place in the national debate for decades. And yet it's only recently that we have started to frame that debate

in terms of its potential to seriously impact our economy and the framework of our society. We've been talking about it for years, and yet we still don't seem to have a firm grasp of the situation. We can't wrap our heads around the fact that our finite natural resources are being depleted. In short, oil is running out.

As a whole, most of our responses to this anticipated change boil down to a strategy designed to delay its arrival. Higher energy efficiency requirements for electrical appliances and other goods have reduced our consumption but not our appetite. Stricter emissions rules have made fossil fuels safer to use but not replaced them. We're using less, yet we are still addicted to oil. We can justify working to delay the inevitable but only if we use the time we've gained to come up with real solutions. We've perceived the coming change, now it's time to develop and implement real solutions.

As leaders within the On-Site Power Industry, we need to step up here by showcasing the real solutions we can offer. From bio-fuels to wind, our industry offers a wide range of products and technologies that don't perpetuate our addiction to oil. We need to promote the use of On-Site Power technologies and stress their potential to reduce energy costs, provide higher power quality and increase energy efficiency. Change is coming. How will you respond? ■

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EGSA Director  
of Education  
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## Education Program Updates

Despite an extraordinary amount of effort, On-line Learning Committee members Dennis Pearson (Chairman), Paul Feld, Dennis Roundtree, Andy Ulavege, and Greg Walters are still spending a significant amount of time developing a plan for an EGSA e-learning program. A few months ago, EGSA engaged Bill Heacock as a consultant to help us focus and identify priorities. Thanks to Bill's guidance, the committee has made significant progress.

The Committee will present a progress report to the EGSA Board of Directors in September. We have realized that the program's complexity and potential cost require us to take "baby steps" in developing and implementing the program. Slow, deliberate movement will ensure that program components meet member needs and deliver a reasonable, timely return on our investment. It is likely that the Committee's initial recommendations will be to develop an EGSA 101 course (an overview of the Association and its programs and benefits) and an On-Site Power 101 course (a non-technical overview of the On-Site Power industry, the equipment we use and a comparison of our market to the utility industry).

Once we have a better understanding of how to build and implement these programs and we have conducted some member needs research, we will expand the program to offer more on-line technical courses including parts of our On-Site Power Generation schools.

### On-Site Power Generation Schools

Did you know that EGSA has been holding On-Site Power Generation schools since 1983? By the close of 2010, EGSA will have conducted a total of 90 schools. We have to estimate attendance figures for some of the early schools but we are confident that at least 2,618 (and as many as 2,825) people have attended our schools. School attendance data shows that over 1,818 people have attended the schools held since January 2000.

When the program was first introduced, EGSA offered only 1-3 schools per year. Rising demand in the late 1990s expanded the program to 4-6 schools per year. Average attendance from 1983-1999 was 29 per school but from 2000 to the present the number of students rose to an average of 36 per school. Attendance figures peaked in 2001 when 246 students attended the EGSA Schools.

Over the years, we've used student feedback in a variety of ways to provide a consistently excellent educational experience. Using feedback to guide development of the Basic and Advanced schools two years ago enabled us to take a major step forward to better meet learning needs.

We now have enough feedback and experience with the two-tiered school to perform an in-depth analysis. The Education Committee will form a sub-committee at the September meeting to facilitate the process of evaluation

*Continued on page 23*



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EGSA Technical Advisor  
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## UL Issues Changes on UL2201, Certification Decision on UL2200

Changes continue to be made to UL2201 paragraph 41A. 1, which states: “For devices with any dc output circuit intended to charge a non-integral battery, the battery leads shall be connected, in reverse, to a fully charged, suitable lead-acid battery while the generator is operated at rated load.” The items underlined above were added during the last round of changes. I asked UL to change “while the generator is at rated load” to “while the generator is at rated speed.”

The paragraph cites the conditions and parameters of a test designed to show system faults by connecting the generator to a battery the wrong way. Unfortunately, the current wording is flawed because a generator is at rated load only when it is connected to a load equal to its rating. This test will only show system faults when there is no load on the generator.

In addition, I don't know how you can connect the battery leads in reverse (at the wrong polarity) without creating a huge arc. A fully charged battery will actually lower the load to the generator.

UL has also announced a “Certification requirement decision” concerning UL 2200 *Standard for Stationary Engine Generator Assemblies*. The decision adds section 11 A. Service Equipment Applications and 11A.1 An engine generator assembly provided with a disconnect means intended to comply with Service Equipment Re-

quirements shall comply with the applicable requirements in the Reference Standard for Service Requirements, UL 869A.

UL 2200 also added 61.2.24 An engine generator assembly provided with a disconnect means, and evaluated for a service equipment disconnect rating in accordance with Disconnects Used in Service Equipment Applications, Section 11.A, shall be marked in close proximity to the disconnect with “This generator disconnecting means complies with the requirements for Service Equipment in accordance with Article 225.36 of the NEC” or equivalent.

*(Editor's note: the portions underlined above are additions to the existing standard)*

### ISO Technical Committee to Meet

The ISO/TC 70/SC 8 “Exhaust Emission Measurement” has announced it will meet in Berlin, Germany November 3-4, 2010. The topics to be covered are ISO 8178-1: NOx monitoring – analyzing method; ISO 8178-11: correction proposal to Annex G “Statistical Equations”. There will also be discussion as to the work needed to be done on the revision of the following: ISO 8178 – 4:2008, ISO 8178 -5:2008, ISO 8178-6; ISO 8178-7; ISO 8178-8 and ISO 8178-9.

If you are interested in attending, contact Technical Committee Secretary Nadine Poertner

*Continued on page 23*

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A close-up photograph of a person's muscular right arm flexed, showing the bicep. Handwritten in black marker on the bicep is the text "D.T.S. + Lectrus" followed by a horizontal line and then "POWERFUL". The person is wearing a grey t-shirt. The background is a solid dark green.

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# Meet EGSA's David I. Coren Scholarship Recipients for 2010-11

The Electrical Generating Systems Association (EGSA) Scholarship Committee has completed its review of credentials and ranking of applications and, at the direction of the EGSA Board of Directors, has awarded twelve \$2,500 scholarships for the 2010-11 academic year.

The David I. Coren Scholarship Program provides financial assistance to qualified students and is designed to have a positive impact on personnel shortages and will be an excellent vehicle for enhancing awareness of the industry. The competitive, merit-based scholarships are awarded to qualified students who plan on pursuing a career in the On-Site Power industry. In addition to their career focus, applicants must be full-time students, have a declared major related to On-Site Power, and maintain a minimum 2.8 GPA.

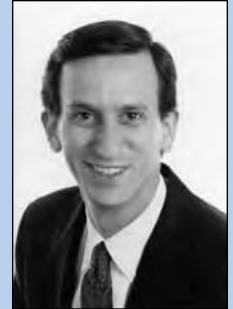
EGSA launched the David I. Coren Scholarship Program in 2002 to promote awareness of the On-Site Power Generation industry and to generate interest in On-Site Power careers. The move came in response to the growing need for skilled On-Site Power personnel. While the Association has an established and widely recognized On-Site Power School education program of its own, the Board of Directors noted the industry's need for highly educated individuals from a variety of applicable disciplines.

Information detailing the David I. Coren Memorial Scholarship program—including a Scholarship Program Brochure and an Application Packet—is available on the Association's web site at [www.egsa.org](http://www.egsa.org). For additional information, individuals may contact George Rowley, EGSA Director of Education at [G.Rowley@egsa.org](mailto:G.Rowley@egsa.org) or 561-237-5557. ■

## About David I. Coren

David I. Coren received his Bachelor Degree from the University of Illinois while earning his CPA license. After working in the financial sector for nearly a decade, he began his career in On-Site Power at Zenith Controls, headed by his father and 1978-79 EGSA President Arthur Coren. David became active in Zenith's business development group, strategic planning and marketing. He worked closely with Executive Vice-President and 1998 EGSA President Ron Seftick and was eventually named President of Zenith Controls. At the same time, David became highly active in EGSA by serving as a Conference Presenter, serving on the Convention Planning Committee and chairing the committee in 1998. Sadly, in April of 1999, he was diagnosed with a brain tumor; in September of 2000, we lost him.

David is best remembered by his strong desire to succeed, his potential for leadership within EGSA and his ability to motivate his fellow Association Members in serving the industry. EGSA established the David I. Coren Memorial Scholarship Fund as a means to help those wanting to contribute and work in the On-Site Power Industry. Since its inception, EGSA has provided scholarships to over 60 deserving students and has enabled them to pursue meaningful On-Site Power careers.



## Zachorey R. Arel

*Universal Technical Institute*

I recently graduated from the Diesel Industrial Program at Universal Technical Institute (UTI) and became a certified Diesel Technician. Over the summer, I am working full time for First Quality Lawn Care of Manchester, NH and saving money to relocate to Avondale, AZ where I will continue my education by entering their Cummins Engines and Power Generation program at UTI's Avondale, AZ campus. I will graduate in May, 2011 with an Associate Degree of Occupational Studies with Diesel Industrial and Cummins Engine.

Once I have secured the necessary certifications to work on Cummins engines and generators, I plan to acquire a full-time position in the industry that will give me the experience and knowledge I need to start my own diesel-engine maintenance and repair business.

I would like to thank the members of EGSA for this scholarship and tell you how grateful I am for your generosity. This award will lighten my student financial burden and allow me to focus more on my studies.



## Kyle L. Brown

*College of Southern Idaho*

I'm from Jerome, ID, and I attend College of Southern Idaho in Twin Falls. I will complete my Wind Energy Technician Associate Degree this coming May of 2011. My current GPA is 3.9375. I received the CSI Professional Technical Scholarship for the 2009-10 school year, made the Dean's list in fall 2009 and made the President's list in spring 2010.

I am in a work study program in the Ag Dept. at CSI for Dr. Ross Spackman, and I am serving in a Wind Energy Internship at Goodman Electric Motors this summer in Twin Falls. I also drive a school bus part time for Western States Bus Service.

I have been married 21 years to my loving wife Kim. We have 3 beautiful children: Karlene (and her husband Vaughn, a great addition to our family); Karston; and KaDence. I enjoy spending time with my family camping, hunting, visiting state and national parks, target shooting and auto mechanics.

My ultimate career goal is to work on commercial wind turbines somewhere in the United States.





**Timothy E. Funk***Pennsylvania College of Technology*

My name is Tim Funk and I have attended Pennsylvania College of Technology (Williamsport, PA) since the fall of 2006. I have earned Associate Degrees in Diesel Technology and in Electric Power Generation. I am now enrolled in the Bachelor of Science in Technology Management Major to finish my Electrical Power Generation degree. My current GPA is 3.83 as of May 2010.

I volunteer at I-Tec, a non-profit, Christ-centered organization that sends generators and electrical equipment overseas to help and support missionaries, hospitals and churches. I also attend two campus ministries, 209 Fire and Campus Crusade for Christ, and I am a leader in the Phi Theta Kappa Honor Society.

Once I graduate from Penn College, I plan to acquire work in the Power Generation industry and continue my volunteer work with I-Tec by participating in mission trips.

**Jason M. Hirtzel***Pennsylvania College of Technology*

My name is Jason Hirtzel and I'm from Colden, NY. I am in my last year of the On-Site Power Generation degree at the Pennsylvania College of Technology in Williamsport, PA.

I currently intern for Williams Gas Pipeline, a natural gas transportation company. We are involved with the Marcellus Shale projects going on in the area, and the job is without a doubt the best I have ever had.

When I graduate, I would like to start my career with Williams' Northwest Pipeline division. I'd like to thank EGSA for their continuing support, and I'd like to thank all my family members, especially my parents and my uncle Brian, as well as all my friends. You guys make me who I am. God bless.

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### Kendon S. Jensen

Idaho State University

I am a student in the Diesel Technology program at Idaho State University in Pocatello, ID. I am pursuing a 2012 Bachelor of Applied Science in Diesel Technology degree, and I have a 3.58 GPA.

I love anything outdoors, including hunting, hiking, fishing, camping, dirt biking, and shooting. I also love fixing things, which is why I do maintenance work for an assisted living home and an apartment complex. I also work as a nursing assistant at Rosetta Assisted Living, which specializes in caring for those with Alzheimer's and Dementia.

I entered the diesel program to obtain hands-on training that I can use in my future work as a shop manager or parts specialist. Eventually, I would like to use the experience and knowledge I've gained and pass it on to those considering pursuing a career in the same field. I would like to teach students and future mechanics the things I have learned over my lifetime as a way of giving back to those who have helped me.

Technology is becoming more advanced and beneficial to mankind. It's my dream to be a part of that advancement and to be successful not only for myself, but for my family.



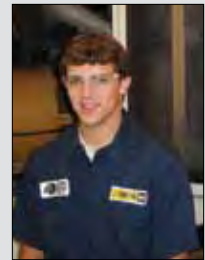
### Ryan A. Krueger

Fox Valley Technical College

My name is Ryan Krueger, and I grew up in Markesan, WI. For the past year I have been attending FABTECH, through the Fox Valley Technical College.

The FABTECH program is sponsored by FABCO, a Caterpillar dealer here in the Midwest, which has formed an alliance with Fox Valley Technical College to create FABTECH.

I am currently enrolled in the Electrical Power Generation, and Marine program through FABTECH. I will graduate in August 2010. I have maintained a 3.66 GPA, which has allowed me to be on the Dean's List every semester I have been enrolled. When I graduate, I will be employed by FABCO to service standby generators and rental equipment.



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**James A. Robinson**

Linn State Technical College

My name is James Robinson "Jay", and I grew up in Apple River, IL. I currently live in Linn, MO, where I am attending Linn State Technical College (LSTC).

I obtained my Industrial Electricity degree with a 3.7 GPA, and I am currently enrolled in an Electrical Power Generation Program with an expected graduation of Summer 2010. While attending LSTC, I have been on the Dean's List and scored in the top ten percent of my class on the CAPP test.

Some of my hobbies include playing guitar in a rock band and restoring classic cars. I look forward to the challenge of a career in the Electrical Power Generation field, and how it will allow me to continue these hobbies in the future.

I am currently employed by Patterson Property Management with the title of "Maintenance Man." This job includes electrical, apartment and lawn care maintenance. I have been employed full-time over the summers with Genesis Power as a Gen-Tech intern. I am truly honored to receive this scholarship. Thank you!

**Nicholas F. Sudela**Oklahoma State University  
Institute of Technology

My name is Nicholas Sudela; most people call me Nick. I'm from the Houston, TX area, and I'm currently a technician in training (select-tech) employed by Aggreko.

I'm pursuing my Associate Degree in Applied Sciences with a major in Heavy Diesel Equipment. I attend Oklahoma State University Institute of Technology and maintain a 3.7 GPA. In my free time, I enjoy being with my fiancée (who is due in September) and hanging out with family and friends.

For the past month I have been in Nashville, TN providing tech support at the Opry Mills Mall because of the recent flooding.

I feel very honored to receive this scholarship. I'm very excited about my future as a technician specializing in On-Site Power Generation technology. I will continue to do the best that I can and meet every challenge with an open mind.

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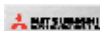
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## COREN MEMORIAL SCHOLARSHIP PROGRAM

### Wesley B. Stockman

*Linn State Technical College*



My name is Wesley Stockman and I am from Taos, MO which is right outside of Jefferson City, the state capital. I have recently graduated with an Associate Degree in Industrial Electricity from Linn State Technical College, which is located in Linn, MO.

I am currently pursuing another Associate Degree from Linn State Technical College in Electrical Power Generation and plan to graduate this summer. During my college career I have maintained a 3.5 GPA and made the Honor Roll or Dean's List every semester.

Since my sophomore year in High School, I have been employed part-time at Central Technology Services in the Item Processing Department. My job is to sort and process checks from surrounding banks. Having this job and receiving the EGSA Scholarship has helped me pay for college and other living expenses.

My ultimate career goal after receiving my degree is to become an EPG Technician and work my way up in this field.

### Kyle M. Take

*Oklahoma State University  
Institute of Technology*



My name is Kyle Take. I am from Caseyville, IL, and I am currently attending the Oklahoma State University Institute of Technology in Okmulgee, OK where I am majoring in Diesel Mechanics and Heavy Equipment.

I expect to receive my Associate in Applied Science degree in the summer of 2011. I am currently employed as a "select tech" for Aggreko. In this program I work/intern for two months mostly out of the St. Louis, MO depot and then I go to school for two months. It is my plan to become a full-time technician at Aggreko directly after graduation.

Thank you, EGSA, for honoring me with this generous award.



**Gavin S. Tomeny***Universal Technical Institute*

My name is Gavin Tomeny, and I have been a student at Universal Technical Institute for the last three years studying Auto, Diesel, and Power Generation Technology.



I just graduated from the UTI campus in Avondale, AZ in May, 2010 and received my Associate in Automotive and Diesel Technology degree with an emphasis in Power Generation. I graduated with a 3.95 GPA.

My home town is San Diego, CA but I am currently working in Iraq doing power generation on the military bases. I plan to stay over there for about three years and then I want to move back to San Diego and enroll in SDSU to get my Bachelor of Electrical Engineering degree, while I build hotrods in my free time.



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**Nathan M. Vossen***Linn State Technical College*

My name is Nate Vossen. I was born and raised in Jefferson City, MO; I've lived here my whole life. I attend school at Linn State Technical College (LSTC) which is located approximately 30 minutes away from Jeff City in Linn, Missouri.



I will graduate in December from LSTC with two Associate of Applied Science degrees: one in Industrial Electricity-Construction Emphasis; and the other in Electrical Power Generation.

My GPA in May was 3.753. In my four semesters so far at LSTC I have been on the Dean's List three semesters and the honor roll one semester.

In my free time, I enjoy hunting, fishing, riding four wheelers, and playing in softball and basketball leagues. Throughout high school and college, I have worked at two different landscaping companies and have always mowed yards for myself on the side. My ultimate career goal is to one day run my own electrical/on-site power generator contracting business.

# First Biogas Cogeneration Plant in Ukraine Powers Milk Company

## "Green" Tariff allows it to sell excess power to the grid

Cow manure is being converted to energy at the first biogas cogeneration plant in the Ukraine. The facility, which is powered by 4,000 cows and a GE Jenbacher gas engine, has recently completed nine months of successful operation at the Ukrainian Milk Company Ltd., located near Kiev.

The excess power produced at the plant is being sold to the grid. The Ukrainian Milk Company, which produces milk for baby nutrition products, received the license for selling power to the grid based on the "green" tariff, which is being approved by Ukraine authorities. According to the law, the "green" tariff is a special tariff for electricity that is generated through the use of alternative energy sources.



The new combined heat and power (CHP) plant is powered by a containerized cogeneration model gas engine and is able to substitute the equivalent of 1.2 million cubic meters of natural gas annually and, therefore, is projected to reduce the equivalent of 18,000 metric tons of CO<sub>2</sub>. Once converted into biogas, the manure from the cows is used to produce 625 kW of electricity and 686 kW of thermal output.

Biogas plant construction company ZORG, a leading supplier of turnkey biogas solutions in the Ukrainian market, obtained the engine through SINAPSE, GE's distributor and service provider in the Ukraine.

The first stage of operation for the plant took place during the most severe winter



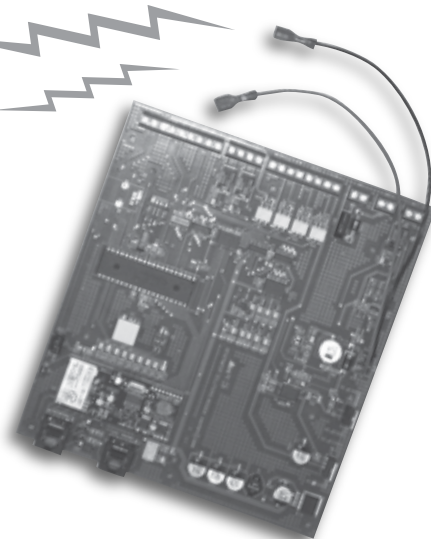
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in the last 20 years, with constant below-zero ( $^{\circ}\text{C}$ ) temperatures reaching  $-25^{\circ}\text{C}$  to  $-30^{\circ}\text{C}$ . Despite the cold temperatures, plant operations remained at a favorable level of performance.

Biogas offers customers several advantages. It provides an alternative disposal of dung, liquid manure and organic waste, while simultaneously harnessing them as an energy source, a substitute for conventional fuels. It also has the high potential for reduction in greenhouse gases and is highly efficient for combined on-site power and heat generation. In addition, the remaining substrate from the digester can be used as high-quality, agricultural fertilizer, characterized by neutralizing the acid effect with a higher pH-value, keeping nutrients retained and nearly odorless.

"The disposal and treatment of biological waste represents a major challenge for the waste industry. Biogas-fueled gas engines improve waste management while maximizing the use of cow manure, an economical energy supply," said Prady Iyyanki, CEO-gas engines for GE Power



*The Ukrainian Milk Company uses a biogas-fueled cogeneration plant to produce milk for baby nutrition products. The company received a license to sell power to the grid based on a "green" tariff for electricity generated with the use of alternative energy sources which, in this case, included 4,000 cows.*

& Water. "We are pleased that our technology is a part of the first biogas plant in operation in the Ukraine and applaud the region for seeking new renewable and alternative ways to create cleaner energy."

### Biogas technology expansion

Biogas use has been quietly expanding for years, and the Ukraine plant is just one of several high-profile biogas projects GE has supplied throughout the world.



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China, for example, has adopted both cow and chicken manure applications. Biogas created from chicken manure is being used to generate needed power and heat at the Beijing Deqingyuan Chicken Farm Waste Utilization Plant, a large chicken farm north of Beijing, and biogas engines currently power China's largest chicken waste biogas-energy plant at the Minhe Animal Husbandry Company in Shandong.

Once online, the recently completed cogeneration plant at the Liaoning Huihan Cow Farm in Shenyang, China will become the world's largest biogas project based on cow manure. The plant will use the manure from 250,000 cows, which has been converted into biogas, to power four gas turbines.

The project will produce heat and power for the farm and the biogas conversion process will produce residual liquid to nourish the farm's pastures along with organic fertilizer to support organic farms in the surrounding area. Surplus energy is sold to China's state grid.

Cow manure also is helping to address

northwestern India's mounting energy environmental needs. A biogas cogeneration system powers a model waste-to-energy conversion plant at the Haebowal dairy complex in the city of Ludhiana. The 50-acre Haebowal complex, one of two centralized cattle facilities in Ludhiana, serves 1,490 dairy operations that own a combined total of 150,000 head of cattle, which generate a total 2,500 tons of manure daily. The demonstration project uses the biogas with high methane content created during the anaerobic digestion of 235 tons of cow manure per day to generate electricity and thermal power (hot water).

The plant was installed and commissioned by the Punjab Energy Development Agency (PEDA) to reduce greenhouse gas emissions and prevent the improper disposal of animal waste. PEDA is the state government nodal agency for renewable energy projects in Punjab under the financial and technical support of the Ministry of New and Renewable Sources, Government of India.

Surplus energy is sold to the local grid

of Punjab State Electricity Board (PSEB), while water heated by the engine is used to assist the digester fermentation process. Remnants of the digester process are used by local farmers as fertilizer.

"We are very pleased with the results of this biomethanation facility to mitigate the environmental impacts from such a large concentration of cattle in one area," said Shri M.P. Singh, Senior Project Manager of PEDA.

Here in the U.S., the Crave Brothers dairy farm uses biogas engine technology to generate 633 kilowatts of renewable energy in Waterloo, WI. The farm has reduced operational costs and the environmental impact of its dairy operations and benefited by selling surplus power to the regional grid.

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## EGSA to Host "Power Breakfast" at Upcoming 2010 Fall Conference

EGSA has announced it will host a "Power Breakfast" specifically for invited Facility Managers, Consulting-Specifying Engineers, Commercial Building Owners and other End-Users from the Southern California area at the 2010 Annual Fall Technical and Marketing Conference.

EGSA created this special event to build awareness about just how valuable and crucial on-site power generation systems can be to any facility in the event of a power outage and just how important and valuable the advice, service and support of an on-site power professional can be to their continuing success.

The "Power Breakfast" will take place from 7:30-8:30 a.m. Tuesday, September 14 on the floor of the EGSA Fall Conference Exhibitors Showcase at the Hyatt Regency Newport Beach. Those in attendance will have ample opportunity to meet with on-site power professionals from the industry as well as the immediate area.

"We're expecting a strong turnout," said EGSA Marketing Manager Todd



Cline. "With the addition of the Power Breakfast track, End-Users, Manufacturers and Distributors can connect for the first time at our spring and fall conferences, thus greatly increasing the value proposition to all EGSA members and the on-site power generation industry."

Feedback from invited guests and EGSA Members in attendance will be used to evaluate the event's success and to gauge the level of interest in continuing to target End Users for future events. For information, visit [www.egsa.org/vantagepoint](http://www.egsa.org/vantagepoint) or contact Todd Cline, EGSA Marketing Manager, via email at [T.Cline@egsa.org](mailto:T.Cline@egsa.org). ■

## EGSA Certified Technician Counts

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10	MO
8	NJ, WI, Trinidad
7	MA, MD
6	SC
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## EDUCATION

Continued from page 8

and will make relevant changes. The committee will collaborate with instructors to identify strengths and areas of need for improvement.

### Certification Marketing Program

As I have previously mentioned, EGSA Marketing Manager Todd Cline has been working closely with members of the Certification Committee to develop a marketing program that will effectively promote the certification program and EGSA. Todd and the committee have spent many hours defining and refining

the plan and the EGSA Executive Board recently had opportunity for input. The Committee will continue to discuss important elements of the plan, and a final proposal and request for implementation will be made to the Board in September. It is premature to mention details but as we have mentioned for some time, the marketing plan will have a heavy focus on the end-user and will be instrumental in helping understand the importance of using EGSA Certified Technicians.

**Testing** – This continues to be a good year for EGSA's Technician Certification

program. As of August 1, 2010, 59 techs had passed the test as compared to 80 for all of 2009. The grand total—fast approaching 400—now stands at 384 EGSA Certified Technicians (As an FYI, 472 technicians have taken the test since program launch so the overall passing rate is about 81%).

If you have any questions or concerns about any of EGSA's education programs and services, please contact George Rowley via e-mail at [G.Rowley@egsa.org](mailto:G.Rowley@egsa.org). ■

## CODES & STANDARDS

Continued from page 10

via email at [nadine.poertner@vdma.org](mailto:nadine.poertner@vdma.org).

### Newsbites from NFPA, EPA, SAE

**NFPA** has announced its schedule for the 2013 version of Standards 110 *Standard for Emergency and Standby Power Systems* and NFPA 111 *Standard on Stored Electrical Energy Emergency and Standby Power Systems*. Proposals concerning changes to the standards are due November 23, 2010.

New additions to the 2011 version of the **National Electric Code** may be found in the following articles:

- 240.87 – Means to reduce incident energy.
- 408.4(B) – Labeling of subpanels to identify feeder supply source.

- 450.14 – Disconnecting means for transformers.

New additions to the 2009 version of **NFPA 70E** include:

- New restrictions on cotton garments which further reduces the risks for second degree thermal burns.
- Expanded task table in Article 130 to cover new items such as thermographic imaging and new equipment including arc-resistant switchgear.

The **U.S. Environmental Protection Agency (EPA)** has issued a new Sulfur Dioxide (SO<sub>2</sub>) health standard.

The agency set the one-hour SO<sub>2</sub> health standard at 75 parts per billion (ppb) to protect against short-term ex-

posures ranging from five minutes to 24 hours. It revoked the current 24-hour and annual SO<sub>2</sub> health standards because the science indicates that short-term exposures are of greatest concern and the existing standards would not provide additional health benefits.

**SAE standard J2836/1** lays the groundwork for communication between a plug-in electric vehicle and the utility grid. This will help the utility by enabling consumers to charge their vehicles in off-peak hours.

If you have any questions or concerns about standards or codes as they relate to On-Site Power Generating equipment please contact Herb Whittall via e-mail at [HWhittall@comcast.net](mailto:HWhittall@comcast.net). ■

# Are You Ready for RICE NESHAP?

## Start preparing now for the May 3, 2013 deadline

By Jay Warner and Chad Kaderabek, Universal Acoustic & Emission Technologies

Although most government regulations are looked upon as impediments, the recent RICE NESHAP (Reciprocating Internal Combustion Engine, National Emission Standards Hazardous Air Pollutants) ruling by the U.S. Environmental Protection Agency (EPA) can be looked upon as a business opportunity to some. The ruling, issued in February 2010, covers existing non-emergency stationary diesel engines. The EPA states there are over 900,000 stationary engines in the US that are affected by this ruling, which goes into effect May 3, 2013.

Revenue opportunities caused by the ruling will include new engine sales, catalyst sales and labor for installation of catalysts. Engine distributors and packagers particularly have an opportunity to generate revenue from this ruling for the following reasons:

- They already have a database of previously sold packages
- They have existing relationships with end-users as they provide them service and/or replacement parts.
- Their customers will be looking for answers to the question: What do I need to do to my engine to be compliant by 2013?
- Customers with non-compliant engines may opt to purchase a new compliant engine instead of retrofitting.

Now is the time for a packager to be looking for a solution to this opportunity.

Some items they need to consider are:

- Type of control technology
- Backpressure requirements
- Catalyst placement
- Supportive structure
- Catalyst sizing
- Catalyst configuration
- Service
- Compliance testing
- Continuous monitoring
- Labor time

Emission control technology that will be used is Diesel Oxidation Catalysts. One needs to be aware of the type of coating on the catalyst element's substrate. Platinum coated substrates are more durable than Palladium. Platinum lasts longer and is more robust against poisons like sulfur. RICE NESHAP requires CO reduction by 70%. Most catalysts on the market today are calibrated on the order of 90% CO reduction and therefore would be more expensive. Look for a catalyst provider that can adapt to these lower CO reduction requirements.

Engine backpressure also needs to be considered when adding a catalyst to an existing engine. Adding a catalyst will add backpressure that may exceed the engine exhaust backpressure threshold. A catalyst can add an additional 3-4" of water to engine backpressure. Replacing the silencer with a combination silencer/catalyst unit is a solution to minimize the additional backpressure. They are de-

signed for lower backpressure by reducing the number of expansions and contractions of the exhaust gases. As another option, the catalyst itself can be designed for lower backpressure.

Placement of the catalyst in the exhaust system is critical as the exhaust gas temperature needs to be managed so the catalyst works properly. Most catalysts need to operate above 250 degrees C. The further the gas path is from the source, the lower the temperature. In some applications, this may require additional insulation around the exhaust system in order to maintain the proper exhaust temperature. The system should be optimized for the lowest temperature seen throughout the year. For example, colder climates may need additional insulation because of winter temperatures. Also, proper attention needs to be paid to the components upstream from the catalyst system. If you are using a packed silencer in sequence with the catalyst system, fibers may come loose that may coat or plug the catalyst's element and reduce its effectiveness. In these instances, the catalyst system should be located upstream from the packed silencer.

Before installation of the catalyst system, the physical support structure needs to be considered. For larger catalyst systems, the connecting pipe will not be able to support the catalyst's weight. A steel ladder system may be required to support



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the catalyst from the package's base. The supportive structures should be fabricated before on-site installation to minimize service time.

Proper attention needs to be given to catalyst sizing. The volume of the catalyst must be properly sized for the exhaust flow rate to meet the required emissions reduction target. If it is undersized, you won't meet the emissions target. And if it is oversized, the catalyst may be overpriced and uncompetitive when selling to an end user.

Catalysts require periodic servicing, typically every 8700 hours of operation. The catalyst system needs to be placed where it can be easily accessed, whether near a service panel or open area. Engines less than 500 HP may utilize a more economical disposable/non-service catalyst housing. For larger HP engine applications, a removable catalyst element housing design is more cost effective. It should allow easy access to the catalyst element and quick removal without special tools or cumbersome capture mechanisms. The faster technicians can remove and replace

#### SUMMARY FROM THE FEDERAL REGISTER

##### National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE NESHP)

The Environmental Protection Agency (EPA) is setting national emission standards for hazardous air pollutants that impact existing stationary, compression-ignition, reciprocating, internal-combustion engines.

These engines are located at area sources of hazardous air pollutant emissions or have a site rating of less than or equal to 500 brake horsepower and are located at major sources of hazardous air pollutant emissions.

In addition, the EPA is setting national emission standards for hazardous air pollutants for existing, non-emergency, stationary, compression-ignition engines greater than 500 brake horsepower. These engines are located at major sources of hazardous air pollutant emissions.

Finally, the EPA is revising the provisions related to startup, shutdown, and malfunction for the engines that were regulated previously by these national emission standards for hazardous air pollutants.

This rule will go into effect on May 3, 2013.

the catalyst element, the more time they have for other billable jobs. Exhaust bypass is a common problem in some catalyst housing designs. This is where the exhaust gas circumvents the element and is not forced through the catalyst. This issue will impact the effectiveness of the

catalyst system. Seek a housing and catalyst design that includes a positive seal against the side of the housing, forcing the exhaust gas to flow through the catalyst element.

Many engines that will be affected by the RICE NESHP ruling will come in

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enclosed skid-mounted packages. Space inside the enclosures is at a premium. Finding a location to fit a catalyst can be difficult. However, by utilizing an integrated silencer/catalyst system, you may be able to place it in the same footprint as the current silencer. Also, you will need catalyst housings that have different mounting configurations, such as end-in/end-out, side-in/end-out, and high-side in/end-out.

Existing stationary engines that require the addition of a catalyst system require before and after emissions testing to validate compliance. To make this requirement easier for your organization, work with an emissions control supplier who can provide the testing. In this way, the emissions control supplier can receive information immediately if changes need to be made to meet compliance.

An additional opportunity for your organization is continuous monitoring requirements. The RICE NESHP ruling requires engines that are larger than 500 hp and are a major source of hazardous air pollutants to maintain a service log of

catalyst differential pressure and temperature. You can sell and install a continuous monitoring system to make this documentation requirement easier for your customer. Offer a continuous monitoring device that allows the storage of multiple readings. Also, a monitoring device with CANBUS capabilities will allow integration into a facility's Building Automation System. Or, you may want to consider offering a monitoring service to your customers that will handle the data tracking requirements for a monthly or yearly fee.

Labor time to retrofit an existing stationary engine is quite variable. One needs to consider the catalyst systems size, weight, site accessibility, lifting equipment, if the package is enclosed or open and installation complexity. Because the deadlines for compliance is not until May 3, 2013, you have plenty of time to actively seek some test project sites to hone the skills and techniques required before the majority of the retrofit projects take place in late 2012 and early 2013.

### About Universal Acoustic

Universal Acoustic & Emission Technologies provides engineered acoustic, emission and filtration solutions for power generation, oil, gas, and industrial markets. Universal has particular expertise in air movement applications, diesel engines, and gas turbine engine systems.

*Editor's note: for more information about RICE NESHP, visit the EGSA Green Committee's page online at [www.egsa.org](http://www.egsa.org) ■*

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# Application for Membership

## ELECTRICAL GENERATING SYSTEMS ASSOCIATION

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*Under the leadership of its Board of Directors and operating through its various committees and staff, EGSA strives to educate, provide networking opportunities and share relevant knowledge and trends with industry professionals including manufacturers, distributor/dealers, engineers, manufacturer representatives, contractor/integrators and others serving On-Site Power consumers.*

### 1. Contact Information

*Please type or print all information in upper and lower case (NOT ALL CAPS!)*

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City \_\_\_\_\_ State/Province \_\_\_\_\_  
Zip/Postal Code \_\_\_\_\_ Country \_\_\_\_\_  
Phone \_\_\_\_\_ FAX \_\_\_\_\_  
Official Representative \_\_\_\_\_ Title \_\_\_\_\_  
Representative's E-Mail \_\_\_\_\_ Company's Web Address \_\_\_\_\_  
How did you hear about EGSA? ☐ Web site ☐ Powerline magazine ☐ Colleague ☐ POWER-GEN ☐ Other \_\_\_\_\_  
Why are you joining EGSA? ☐ Certification Program ☐ CEU Program ☐ Power Schools ☐ Buying Guide Listing ☐ Other \_\_\_\_\_

### 2. Member Classification

*Read the Membership classifications below and check the box that describes your firm's classification.*

#### I. FULL MEMBERSHIP

☐ MF **Manufacturer Membership**

Any individual, sole proprietor, partnership or corporation seeking membership must apply for a Full Membership as a manufacturer if they meet one or more of the following criteria:

1. They manufacture prime movers for power generation.
2. They manufacture generators or other power conversion devices producing electricity.
3. They manufacture switchgear or electrical control devices.
4. They manufacture or assemble generator sets, UPS systems, solar power, hydropower, geothermal, or any other power production or conversion system including related components or accessories for national or regional distribution.
5. They are a wholly owned subsidiary of a firm that qualifies under rules one through four.

☐ DD **Distributor/Dealer Membership**

Any individual, sole proprietor, partnership or corporation actively engaged as a distributor or dealer for products listed under Manufacturer Membership may apply for Full Membership as a Distributor/Dealer. If an organization qualifies under Manufacturer Membership, it is not qualified under this section.

☐ CI **Contractor/Integrator Membership**

Any individual, sole proprietor, partnership or corporation actively engaged as a Contractor or Equipment Integrator of products listed under Manufacturer Membership, not bound by brand, geographic territory or contractually obligated as a Distributor/Dealer of a specific product. These firms typically purchase products from a Distributor/Dealer, Manufacturer or Retailer, adding value through installation, product knowledge, relationships, unique services, etc., and then re-sell the resulting product to an end-user.

☐ MR **Manufacturer's Representative Membership**

Any individual, sole proprietor, partnership or corporation actively engaged in the representation of products listed under Manufacturer Membership may apply for Full Membership as a Manufacturer's Representative. If an organization qualifies under Manufacturer Membership, it is not qualified under this section.

☐ EM **Energy Management Company Membership**

Any individual, sole proprietor, partnership or corporation engaged in energy management, including Energy Service Companies (ESCOs), Independent Power Producers (IPPs), Integrators, Aggregators, and other similar enterprises may apply for Full Membership as an Energy Management Company.

☐ **Associate Full Membership (mark appropriate category at right)**

Any individual, sole proprietor, academic institution, student, partnership or corporation meeting the requirements of Associate Regular Membership may apply for Full Membership at their option to enjoy the privileges of Full Membership, including the rights to vote and to serve on EGSA's Board of Directors. Initiation fees and annual dues will be assessed at the existing non-manufacturer Full Member rates.

#### II. ASSOCIATE REGULAR MEMBERSHIP

☐ AA **Trade Publication Membership**

Any trade publication dealing with the electrical generating systems industry or its suppliers may apply for Associate Membership—Trade Publications.

☐ AB **Trade Association Membership**

Any trade association made up of individual or company members sharing a common interest in the electrical generating systems industry may apply for Associate Membership—Allied Associations.

☐ AC **Engineer Membership**

Any consulting or specifying engineer may apply for Associate Membership—Engineer. Membership may either be held in the employer's name or individual's name under this classification. Individuals whose employer qualify as a Full Member, as described in the Full Membership section, do not qualify for this category.

☐ AD **End-User Membership**

Any individual employee of a company who owns or operates electrical generating equipment and/or related switchgear or components, whose responsibility to his employer includes planning, design, installation, supervision, or service of such equipment may apply for Associate Membership—User. Membership may either be held in the employer's name or individual's name under this classification. Individuals whose employer qualify as a Full Member, as described in the Full Membership section, do not qualify for this category.

☐ AE **Service Membership**

Any individual, organization or academic institution that offers services such as research, testing or repair to the electrical generating systems industry may apply for Associate Membership—Services. Membership may either be held in the individual's name or the organization's name under this classification. Individual companies whose employer or parent organization qualifies as a Full Member, as described in the Full Membership section, do not qualify for this category.

☐ AG **Educational Institution Membership**

Any postsecondary vocational-technical school or college offering on-site power generation-related instruction may apply for Associate Membership—Education Institution.

☐ AR **Retiree Membership**

Any individual who retires from a member company may apply for Associate Membership—Retired. This classification does not apply to any individual who is employed more than 20 hours per week.

☐ AF **Student Membership**

Any individual currently enrolled at an academic institution may apply for Associate Membership—Student.

Dues Schedule (Use for Section 3)			
	Annual Dues	Initiation Fee	TOTAL
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Full Associate Member .....	\$285	\$100	\$385
Energy Management Company .....	\$200	\$100	\$300
Regular Associate Member .....	\$200	\$100	\$300
Retiree Member .....	Complimentary	\$0	\$0
Student Member .....	Complimentary	\$0	\$0

**NOTE:** A FULL 12-MONTH DUES PAYMENT MUST BE RECEIVED WITH THIS APPLICATION. The Association's Membership Year is January 1 through December 31. Dues payments that extend beyond the first Membership Year will be applied to the second year's dues.  
**FULL PAYMENT MUST BE RECEIVED WITH APPLICATION.**

**3. Membership Dues** (Please fill in the appropriate TOTAL amount from the above dues schedule.)

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Membership Plaque (optional)\*\* \$ 49.95\*\*

On-Site Power Reference Book (optional)\*\* \$ 125.00\*\*

Florida Residents: Add 6.5% Sales Tax to \*\* items \$

Continental US Residents add \$5 shipping/handing to\*\*items. \$

Non Continental US Residents should call EGSA

Headquarters for shipping charges for \*\*items.

TOTAL \$

**4. Payment Method** (Payable in US\$ drawn on U.S. bank, U.S. Money Order, or American Express)

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☐ Mastercard ☐ Visa ☐ American Express

Card # Exp. Date

Signature:

Print Name:

**5. Products/Services** Please describe the nature of your business (50 words or less, NOT ALL CAPS). If you are a Manufacturer's Representative or Distributor/Dealer, please indicate which manufacturers you represent and/or distribute for; if you are a student, please provide the name and location of your school, your major and your anticipated graduation date:

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07 ---Engine Starters/Starting Aids

08 ---Filters, Lube Oil, Fuel or Air

28 ---Fuel Cells

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10 ---Generator Sets

11 ---Generators/Alternators

12 ---Governors

13 ---Heat Recovery Systems

14 ---Instruments and controls, including meters, gauges, relays, contactors, or switches

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16 ---Motor Generator Sets

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20 ---Solenoids

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23 ---Transformers

24 ---Uninterruptible Power Supplies

25 ---Vibration Isolators

26 ---Voltage Regulators

27 ---Wiring Devices or Receptacles

**Enter codes here:**

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**6. Sponsor(s):** A "Sponsor" is an EGSA Member who interested you in filling out this application. It is not mandatory that you have a sponsor for the Board to act favorably on this application; however, if a Member recommended that you consider membership, we request that individual's name and company name for our records.

Sponsor Name Company Name

**7. Official Representative's Authorization**

Signature Date



# Applying IBC Seismic and Wind Standards to Standby Systems

Understanding IBC provisions is critical for specifying systems that will continue to operate after an earthquake or hurricane

By Dwight Wells, Product Manager, MTU Onsite Energy

The International Building Code (IBC) is a comprehensive set of building standards that was first proposed in 1997 by the International Code Council (ICC) and adopted in 2000. The IBC sought to harmonize the many national, state and local codes that govern the design of structures in an effort to eliminate duplicative or conflicting standards and, therefore, make compliance more uniform.

The IBC has been updated on a three-year cycle; the latest version is IBC-2009. Currently, all 50 states and the District of Columbia have adopted version IBC-2000, IBC-2003, IBC-2006 or IBC-2009 as their de facto building code.

While the main focus of the IBC is structural integrity and fire prevention, certain provisions govern the certification and installation of emergency standby power systems used in locations that are seismically active or are subject to high wind loading of up to 150 mph. Depending on the classification of the structure and type of occupancy, seismically certified emergency standby power systems are required in order to ensure power after a catastrophic event, such as an earthquake or wind event.

The primary need for electrical power after such an event is for the continuing operation of essential facilities to support the community and various life-safety systems that support building egress. Where power systems are required for continued operation of the facility, the standby generator set and supporting components must be sized to operate all other critical components in the building such as: air handling units, air conditioning, cabinet heaters, air distribution boxes, boilers, furnaces, chillers, cooling towers, water heaters and other similar mechanical, electrical or plumbing equipment required to keep the building functional. Where life-safety is of concern, the emergency standby power would be required

**Table 1: OCCUPANCY CATEGORIES**

**Category I:** Buildings and other structures that represent a low hazard to human life in the event of failure, including but not limited to: agricultural facilities; certain temporary facilities; and minor storage facilities.

**Category II:** Buildings and other structures except those listed in Occupancy Categories I, III and IV

**Category III:** Buildings and other structures that represent a substantial hazard to human life in the event of failure, including but not limited to:

- Buildings and other structures whose primary occupancy is public assembly with an occupant load greater than 300
- Buildings and other structures containing elementary school or day-care facilities with an occupant load greater than 250
- Buildings and other structures containing adult education facilities, such as colleges and universities, with an occupant load greater than 500
- Group I-2 occupancies with an occupant load of 50 or more resident patients but not having surgery or emergency treatment facilities
- Group I-3 occupancies
- Any other occupancy with an occupant load greater than 5,000
- Power-generating stations, water treatment facilities for potable water, wastewater treatment facilities and other public utility facilities not included in Occupancy Category IV
- Buildings and other structures not included in Occupancy Category IV containing sufficient quantities of toxic or explosive substances to be dangerous to the public if released

**Category IV:** Buildings and other structures designed as essential facilities, including but not limited to:

- Group I-2 occupants having surgery or emergency treatment facilities
- Fire, rescue, ambulance and police stations, and emergency vehicle garages
- Designated earthquake, hurricane or other emergency shelters
- Designated emergency preparedness, communications and operations centers and other facilities required for emergency response
- Power-generating stations and other public utility facilities required as emergency backup facilities for Occupancy Category IV structures
- Structures containing highly toxic materials as defined by Section 307 where quantity of the material exceeds the maximum allowable quantities of Table 307.1 (2)
- Aviation control towers, air traffic control centers and emergency aircraft hangars.
- Buildings and other structures having critical national defense functions
- Water storage facilities and pump structures required to maintain water pressure for fire suppression

to operate emergency lighting, elevators, ventilating systems, communication systems, alarms, fire pumps and other systems involved in protecting life-safety. At a minimum, IBC certification and installation details are required in seismically active locations for the following essential facilities that are classified as Occupancy Category IV in **Table 1**:

- Hospitals with surgical or emergency treatment facilities
- Fire, rescue, ambulance and police stations
- Designated public storm shelters
- Emergency response centers
- Power-generating stations and public utilities
- Structures with toxic or hazardous substances
- Aviation control towers and air traffic control centers
- Facilities involved in critical national defense functions
- Water storage facilities required for fire suppression

Additionally, an emergency power system that continues to operate following a seismic event plays a positive role in business continuity, allowing the proper shut-down of manufacturing processes or the preservation of computer data — both of which help reduce financial risk.

### Deciding when to specify a seismic power system

Not every area of the U.S. or type of structure is required to have a seismically certified emergency power system. According to the IBC, a seismically certified emergency power system is only required in locations and structures that meet certain criteria. **Figure 1** shows the areas in the country that are seismically active and where seismic design must be considered. The criteria include importance factor ( $I_p$ ), building occupancy category, site soil class and spectral response acceleration.

- **Importance Factor** – The IBC uses an importance factor ( $I_p$ ) to designate whether an emergency standby power system is a critical or non-critical component. A non-critical component has an  $I_p$  of 1.0, but a critical component has an  $I_p$  of 1.5 when any of the following conditions apply:
  1. The emergency standby power system is required to operate after an earthquake for life-safety purposes (such as egress lighting, sprinkler

systems, fire protection systems, smoke evacuation, etc.).

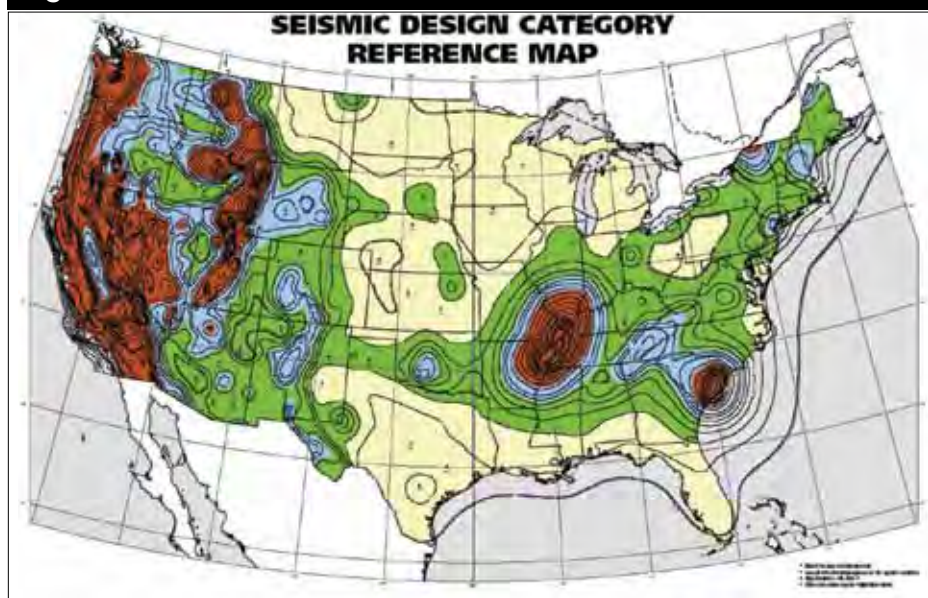
2. The structure contains hazardous materials.
  3. The emergency standby power system is located in an Occupancy Category IV structure and is needed for the continued operation of the facility or its failure could impair the continued operation of the facility.
- **Occupancy Category** – **Table 1** shows the occupancy categories of buildings and other structures as listed in the IBC-2003, 2006 and 2009. Categories I through III do not require a seismically certified emergency power system unless they are located in a seismically active area with short-period response acceleration greater than  $0.33g$  and the equipment is given an  $I_p = 1.5$  because of number points 1 or 2 above.

**Table 2**

**SEISMIC DESIGN CATEGORY BASED ON SHORT-PERIOD RESPONSE ACCELERATIONS**

VALUE OF $S_{DS}$	OCCUPANCY CATEGORY		
	I or II	III	IV
$S_{DS} < 0.167g$	A	A	A
$0.167g < S_{DS} < 0.33g$	B	B	C
$0.33g < S_{DS} < 0.50g$	C	C	D
$0.50g < S_D$	D	D	D

**Figure 1**



The above map (Figure 1) is based on SDS values assuming Soil Site Class D. The green, brown and blue areas represent those portions of the United States affected by the seismic requirements of the IBC Codes. (Map compliments of The VMC Group)

See **Table 2**. However, all Category IV structures require such a system when the importance factor is 1.5 (i.e., essential) and SDS is more than  $0.167g$ .

- **Site Classification** – In any seismically active zone, the potential for structural damage is influenced by the soil type. The least structural damage can be expected on solid rock (Site Class A), while the most structural damage can be expected on loose, liquefiable soils (Site Class F). See **Table 3**.
- **Short-Period Response Acceleration** – This is a number (SDS) derived from the expected ground movement forces (measured in  $g$  = acceleration due to gravity) in seismically active locations as defined by the United States Geological Survey (USGS). The value also accounts for the soil type of the location. Refer to **Figure 1** for a reference map of the contiguous United States. The higher the SDS value the more severe are the seismic forces acting upon a structure and its contents. This number is then used in conjunction with an Occupancy Category (I – IV) to determine a Seismic Design Category (A through F). Buildings with Seismic Design Categories C – F have requirements for seismically qualified components when the component  $I_p = 1.5$ .

The following three critical parameters are the basis for determining whether a

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supply, transfer switches, switchgear and controls. While the engine generator set is naturally a robust piece of equipment, designing for survival of a seismic event also focuses attention on the generator set mounting to the foundation and external attachments, such as fuel lines, exhaust and electrical connections.

To certify the components of an emergency standby power system, the generator set and its associated systems are subjected to a combination of three-dimensional shake-table testing and mathematical modeling. The IBC requires that these tests be performed by an independent, approved, third-party supplier that can issue a seismic certificate of compliance when the seismic qualification is successfully completed. Once a particular generator set passes the seismic qualification, it is the responsibility of the manufacturer to label the equipment, indicating the seismic forces to which the equipment was subjected.

#### Local rules may be more stringent

While the general provisions of the IBC have been largely adopted as the de facto

building code in many states and localities, the project engineers should consult with local jurisdictions to verify that all applicable local standards have been met. In California, for example, the Office of Statewide Health Planning and Development (OSHPD) has set seismic standards for hospitals and health care facilities in accordance with both the 2007 California Building Code and IBC. While these local codes and recommended seismic testing protocols are largely harmonized with IBC, consultation with local authorities can reduce the risk of installing a system which may ultimately prove to be non-compliant.

While the IBC addresses all facets of structure design and construction in all 50 U.S. states, it also addresses the performance of a number of nonstructural systems, such as emergency standby power systems. The IBC's requirements for emergency standby power systems are intended to ensure that structures within certain occupancy categories will have emergency power after a catastrophic event, such as an earthquake or wind event. As such, it has set seismic design

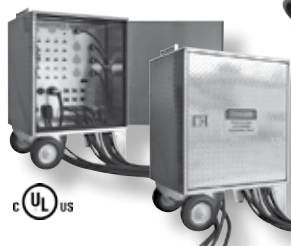
and testing standards for the manufacturers of emergency standby power systems.

All members of a structure's design team — emergency standby power system manufacturers, suppliers, installers, design team managers, architects and consulting engineers — need to be aware of the seismic and wind loading provisions within IBC for emergency standby power systems. Power system manufacturers have undertaken advanced design and testing programs to comply with the seismic provision within IBC involving three-dimensional shake-table testing, finite element analysis, mathematical modeling and experience data. Certified power systems are labeled as having passed seismic testing by a qualified, independent testing organization. By working with a power system manufacturer that offers seismically certified products, the structural design team can be assured that it will have an emergency standby power system that will perform as designed after a seismic or high wind loading event. ■

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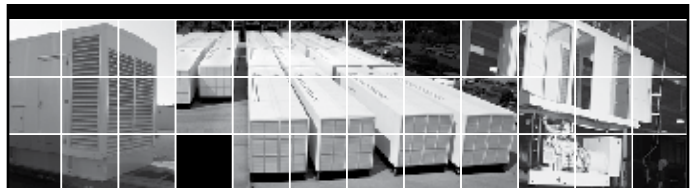


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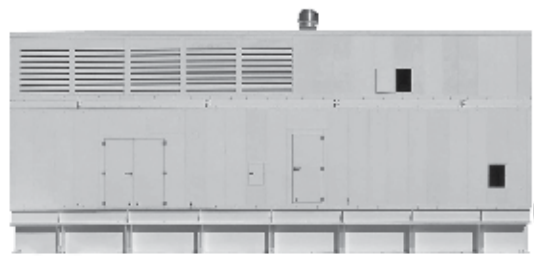
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# Stay on Top of Your Game with EGSA's Electrical Generator Systems Technician Certification Program



Think things move pretty fast in today's business world? Think how fast they'll be moving one, five or even 10 years down the road. That's why you need every advantage to stay on top.

It's no secret that technology is becoming more complex—not less—and that makes today's On-Site Power Generation System a lot more expensive. End-users—your customers—don't want just anybody with a basic knowledge of mechanics to install and maintain their equipment. They want to be confident that all work has been performed by qualified personnel. Suppliers want assurance that skilled technicians are performing maintenance and repairs to guard against unnecessary returns or warranty repairs.

## As good as your word

In the past, your word was the only assurance that your technicians are skilled and knowledgeable. But now, through EGSA's Electrical Generator Systems Technician Certification Program, there is a way that you can back up those words with objective evidence of your technicians' proficiency.

EGSA offers you a big advantage: For the first time in our industry, we have an objective and accurate way to determine generator technician proficiency. That means that the same standards will be used to measure the skills and knowledge of technicians from Maine to Manitoba and Mexico. Yes, Manitoba and Mexico! EGSA has determined that there is no reason why the test could not be fairly applied to any NAFTA technician.

## What are the benefits?

For the Employer, certification helps ensure that your technicians have the critical knowledge and skills to succeed in their jobs. And everyone will be comfortable knowing that your certified technicians' expertise has been confirmed by the industry organization through a program that was developed by a university. Encouraging and helping your technicians become certified signifies your commitment to the highest of standards. Plus, it lends an added level of credibility to your firm and can

sharpen your competitive edge. Employing certified technicians will promote customer satisfaction and you won't have to be shy about offering assurance that your technicians are qualified. Certification can also help you select potential new hires, analyze job performance, evaluate employees and motivate technicians to enhance their skills and knowledge.

Think about the message that certification sends to those with whom you do business. Why would anyone want a technician who isn't certified performing critical maintenance or repair tasks? Employing certified technicians gives you an added tool with which to market your business.

As our members have said, "We've seen too many backyard mechanics damage expensive equipment. This program will provide credibility for my company and will help build pride and a commitment from technicians to be the best."

## For the Technician

Certificate holders benefit too. Certification shows employers, clients, and associates that you are committed as a professional. It provides recognition of your knowledge and skill, shows your commitment to your profession and can help with job advancement. Certification is a mark of excellence that you carry with you everywhere you go.

Acquiring certification indicates that you have the knowledge and proficiency required to perform as an Electrical Generating Systems Technician professional. Becoming certified can increase your salary, enhance your skills, and make your job more satisfying.



*Certification helps ensure that your technicians have the critical knowledge and skills to succeed in their jobs.*



## The Certification Test

EGSA collaborated with Ferris State University to develop the certification test and program. Through a scientific process, our panel of technical experts identified 12 duty areas (such as “Basic Electricity”) and 61 tasks (such as “demonstrate knowledge of AC electrical theory”) within the duty areas. The duty areas and tasks were ranked and rated in terms of their relative importance, the frequency with which a task is performed, and skill level (i.e. Senior/Expert; Intermediate; and Entry Level.) All this data was combined to develop the certification test that was then statistically validated through a pilot test taken by generator technicians from across the United States.

## Who can take the Test?

**Technicians applying to take the test must have a minimum of three years of work experience as an electrical power generator equipment technician.** To be confident that they will pass the test, techs must have a comprehensive knowledge of basic electricity, the functions of a gen-set’s mechanical and electrical components, the interactions and relationships among components and an understanding of various elements of the installation, service, maintenance, and repair of gen-sets and On-Site Power generation systems.

## Use the Study Guide to prepare!

Use of the program’s Study Guide is an excellent way to help technicians prepare for the test and should clearly indicate if they are ready to take (and pass) the certification exam. In addition to useful formula pages, the guide contains almost 200 multiple choice practice questions that cover all parts of the certification test. In addition to identifying the correct answer, the guide also indicates in most cases why a particular choice is correct and why the others are incorrect. The Guide also identifies resource material where technicians can get additional or more in-depth information about a given topic.

Need more information? Visit us online at [www.EGSA.org](http://www.EGSA.org) to find extensive and detailed information about the certification program. Or contact EGSA Director of Education George Rowley via e-mail at [G.Rowley@EGSA.org](mailto:G.Rowley@EGSA.org).



## Certification Testing Covers:

- Automatic Transfer Switches
- Communication & Documentation
- Engine Generator Instrumentation & Controls
- Multiple Generator Switchgear & Controls
- Troubleshooting System Problems
- Auxiliary Support Systems
- Basic Electricity
- Prime Movers
- Governors
- Voltage Regulators
- Generators/Alternators

## Disclaimer of Liability

*Certified status is an indication that an individual has completed a combination of defined education, experience or examination requirements. However, Certification is not a guarantee or assurance of the competence or ability of any particular individual. Further, given the rapid changes in the field, the Electrical Generating Systems Association cannot warrant that the Examination and other Certification materials will at all times reflect the most current state of the art. The Electrical Generating Systems Association disclaims liability for any personal injury, property or other damages of any nature whatsoever, whether special, indirect, consequential or compensatory, directly or indirectly resulting*

*from the Certification Program or the acts or omissions of any person who has been Certified by the Electrical Generating Systems Association. In conducting the Certification Program, including issuing Certifications, the Electrical Generating Systems Association is not undertaking to render professional or other services for or on behalf of any person or entity, nor is the Electrical Generating Systems Association undertaking to perform any duty owed by any person or entity to someone else. Anyone using the services of a person who has been Certified should rely on his or her own independent judgment or, as appropriate, seek the advice of a competent professional in determining the exercise of reasonable care in any given circumstances.*



## Electrical Generating Systems Association

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Boca Raton FL 33432

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Visit us online at [www.EGSA.org](http://www.EGSA.org)



# Stay Competitive with the EGSA Electrical Generator Systems Technician Certification Program



Do your techs wear this patch? This is the uniform patch worn by Certified Technicians. It sends a clear message that this Tech and his Employer are special. The Tech has proven his skill and knowledge by passing a rigorous test; his Employer is committed to excellence and high standards. Certified Technicians can proudly use the title "EGSA Certified Electrical Generator Systems Technician."



EGSA Member Item Number	Non-Member Item Number	Quantity	Item Description	EGSA Member Price	Non-Member Price	Item Total
FSU 089			EGSA Electrical Generator Systems Technician Certification Test (EGSA Member)	\$130		
	FSU 090		EGSA Electrical Generator Systems Technician Certification Test (Non-Member)		\$395	
FSU 091			EGSA Electrical Generator Systems Technician Certification Study Guide (EGSA Member)	\$40		
	FSU 092		EGSA Electrical Generator Systems Technician Certification Study Guide (Non-Member)		\$80	
FSU 126			EGSA Reference Book Bundle—Study Guide plus On-Site Power Reference Book (EGSA Member)	\$175		
	FSU 127		EGSA Reference Book Bundle—Study Guide plus On-Site Power Reference Book (Non-Member)		\$315	

6% sales tax applies to sales of Study Guides to Michigan Residents ONLY. If your Michigan company is tax exempt, please fax a copy of your tax exempt status or include a copy with this order form when ordering by mail. Please note: Each person taking a test will pay a proctoring fee of approximately \$40 at the time of testing. These fees are paid to administer the test and to send it to Ferris State University for scoring. Proctoring fees may vary by location.

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\*VISA/MC: the CVV2 is the last 3 digits of the number printed on the back of the card;  
 AMEX: the CVV2 is the 4-digit number above the card number on the front of card.

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**IMPORTANT! YOUR SIGNATURE MUST ACCOMPANY THIS FORM.**

By my signature below, I acknowledge that the EGSA Technician Certification Test is designed and intended for electrical power generator equipment technicians with a minimum of three years experience, and that I meet that experience requirement.

Signature:

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## Avtron LoadBank, Inc. Acquires N.J. Froment & Co., Ltd.

Avtron LoadBank has announced the acquisition of N.J. Froment, a leading designer and manufacturer of high quality load banks and other testing systems for the diesel generator, gas turbine generator, power supply, and agricultural machinery industries.

"N.J. Froment has a strong reputation for innovative, high-quality equipment, and their product range will complement Avtron's very well" said John Bertram - VP of Avtron LoadBank. "We will be able to offer Avtron and Froment customers a broader range of products, as well as service from our plant in the U.S. and the Froment plant in the U.K., which will be retained" he added.

Keith Williamson, Managing Director of N.J. Froment, said "Froment has a proud history as a successful family-run business that has developed internationally respected products which apply new technology to power test equipment. We see joining Avtron as a logical next step for us to expand the reach of our products and services worldwide. Like Froment, Avtron has great people and we look forward to working together."

Avtron LoadBank is a leading manufacturer of resistive and reactive load banks, neutral grounding resistors and industrial power resistors used for factory testing, commissioning, service, and periodic exercising of standby emergency power systems, including diesel gen-sets, gas turbine generators, UPS systems and back-up battery systems. For additional information, visit [www.load-bank.com](http://www.load-bank.com).

## Bay Diesel & Generator Named Distributor for Scania/Terex

Bay Diesel & Generator has announced it has been selected as the distributor for Scania Industrial Diesel Engines in the Mid-Atlantic region and is expanding its service territory accordingly. Scania has recently been named the supplier of diesel engines for heavy equipment manufactured and sold by Terex.

Terex Global, a construction and heavy equipment manufacturer, chose Scania Industrial Engines and their servicing distributors through a strategy designed to build stronger partnerships with fewer

engine suppliers. The partnership will help Terex equipment effectively transition to the new global off-highway emission standards.

Scania is a globally established, leading manufacturer of marine and industrial engines, trucks and buses, and a growing product and service division. Scania is planning an aggressive expansion to be complete by 2011 that will add dealers and distributors and expand their network to 100 locations.

Established in 1982, Bay Diesel & Generator is a veteran-owned small business specializing in diesel engine and generator sales, repair, and maintenance. The company is an Authorized Marine Dealer for Caterpillar through Carter Machinery, and the regional distributor for Generac Power Systems generators. For information, visit [www.baydiesel.com](http://www.baydiesel.com).

## Capstone Turbine Names Serba Dinamik as Distributor in Indonesia and Brunei for Oil & Gas Industry

Capstone Turbine Corporation, a leading clean technology manufacturer of microturbine energy systems, has named Serba Dinamik as its distributor in Indonesia and Brunei for the oil and gas industry.

Serba is the first of 24 former distributors for Calnetix Power Solutions to become a distributor of the entire family of Capstone products. Calnetix sold its microturbine business and the entire Calnetix TA100 microturbine product line to Capstone in February, 2010. In addition, Capstone and Calnetix entered into a three-year Original Equipment Manufacturer agreement under which Calnetix will supply its new, innovative, 125 kW waste heat recovery generator system to Capstone.

Serba is an international firm with extensive experience in the oil and gas, refineries, petrochemical, power generation and power transmission business sectors. Serba will sell, engineer, install, and commission Capstone microturbines for oil and gas firms drilling both onshore and offshore for natural gas in Indonesia and Brunei. The company also will provide follow-up service as needed.

Indonesia is ranked by the United States Energy Information Administra-

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tion as the tenth largest holder of proven natural gas reserves in the world and the largest in the Asia-Pacific region. More than 70 percent of the country's natural gas reserves are located offshore.

"Serba has worked for years with key oil and gas companies in Indonesia and Brunei," said Jim Crouse, Capstone Turbine's Executive Vice President of Sales and Marketing. "The worldwide oil and gas market is a major focus for Capstone. The natural gas market in the region is extensive, which translates into many opportunities for Capstone to provide...power solutions to onshore and offshore drilling sites throughout the two countries."

Capstone Turbine Corporation is a leading producer of low-emission microturbine systems. For more information, visit [www.capstoneturbine.com](http://www.capstoneturbine.com).

## Governors America Corp. Announces Two New Hires

Governors America Corp. (GAC), a leading provider of engine governing and system controls, has announced that Advertising Manager Celia Lucas and Market Manager Marko Jovic have joined the company.

As Advertising Manager, Celia Lucas will focus on enhancing corporate image and managing customer loyalty. She will lead the development and production of in-house communications and collateral materials including literature, technical documents, and product presentations and develop direct mail campaigns and innovative programs to grow the market for GAC's products.

As Market Manager of the Fuel and Ig-

*Continued on page 41*

# EGSA JOB BANK

## Generator Service Technicians

CJ's Sales & Service, a leading full service provider of MTU Onsite Energy emergency power systems in Florida, has openings for Generator Service Technicians throughout Florida. Core responsibilities include but are not limited to: Planned maintenance service, diagnostics and repair of gen-set systems in the field, and performance of new product start-ups. Two to three years experience, good computer skills, understanding and implementing management directives, neat appearance and clean driving record are required. Excellent pay and benefits. Please e-mail resume to [jobs@cjspower.com](mailto:jobs@cjspower.com) or fax to 352-732-0225.

## Journeyman Generator Field Technician Southwest Territory

We are expanding and seeking an experienced Generator Technician to join our Phoenix and Tucson, and Las Vegas, NV operations. Professional qualifications shall include electro-mechanical skills and comprehension with respect to Diesel Driven and Gaseous Fueled generator sets. Operate and service identified equipment, trouble shoot mechanical sub assemblies, and AC power and DC control systems. Employ knowledge and ability to learn Automatic Transfer Switch (ATS) and Switchgear operations, PLC logic systems, mechanical sub-systems and electrical print reading/comprehension. The qualified person must demonstrate a reliable and personable demeanor coupled with the ability to work independently. Experience/Education. High School Diploma or equivalent required. Graduate from an accredited diesel school preferred with four (4) plus years experience in the electro-mechanical discipline. Vocational and Military Service experience and qualifications preferred. GENTECH offers a competitive market benefit package including health insurance and 401K. Forward Resume to [contact@gentechus.com](mailto:contact@gentechus.com)

## Seeking Generator Technicians?

Always ask for EGSA Certified Generator Systems Technicians! EGSA Certification demonstrates that the Technician has the necessary knowledge and expertise to service today's complex—and expensive—On-Site Power Generating Systems and Equipment.



## Generator Sales

Central Power Systems & Services, Inc. has immediate opening for Generator Rental Manager based out of Kansas City, plus Generator Sales positions in Wichita, KS and Springfield, MO. We offer a strong base wage, incentive program and a full benefit package (including company car, gas allowance, expense card, FREE MEDICAL insurance, FREE LIFE insurance, paid vacation, profit sharing and 401(k), etc.). Fax a cover letter, salary requirements and your resume to 816-781-4518 or e-mail it to [jobs@cpower.com](mailto:jobs@cpower.com) EOE

## Generator Technicians

Due to our continued growth, Central Power Systems & Services, Inc. has immediate openings for Generator Technicians at several of our Missouri, Kansas and Oklahoma facilities. We offer a strong base wage and a full benefit package (including FREE MEDICAL & LIFE insurance) and PAID RELOCATION depending on skill set. Fax a cover letter, salary requirements and your resume to 816-781-4518 or e-mail it to [jobs@cpower.com](mailto:jobs@cpower.com) EOE

## EGSA Job Bank Guidelines

EGSA will advertise (free of charge) EGSA Member company job openings in the Job Bank. Free use of the Job Bank is strictly limited to companies advertising for positions available within their own firms. Companies who are not members of EGSA and third-party employment service firms who service our industry may utilize the Job Bank for a \$300 fee. Blind box ads using the EGSA Job Bank address are available upon request; company logos may be included for an additional fee. EGSA reserves the right to refuse any advertisement it deems inappropriate to the publication. Please send your classified ad (limited to about 50 words) to: EGSA Job Bank, 1650 S. Dixie Hwy, Suite 400, Boca Raton, FL 33432. Or, send it via e-mail it to: [J.Kellough@EGSA.org](mailto:J.Kellough@EGSA.org)

## Experienced Power Generation Service Technician Wanted

Due to our continued growth, Echo Group Inc. has an immediate opening for a generator service technician to be based out of Omaha, NE. Echo Group Inc. services portions of Iowa, Nebraska, Minnesota, South Dakota, Kansas, and Missouri. Applicant should be capable of maintenance, repairs and troubleshooting of diesel and gaseous standby generator systems used in residential, commercial and industrial applications. Ideal candidate would possess the following abilities. Able to repair, troubleshoot and perform startup of generators and switchgear. Highly motivated career minded with ability to work alone and as a team. The desire to take a full-time permanent field service position. A clean driving record. Strong basic computer skills. Previous sales or customer service experience. Previous or current generator service experience. Benefits offered include health, dental, life, and disability plans along with 401K. Please submit resume or questions to [jeremy.engelman@echogroupinc.com](mailto:jeremy.engelman@echogroupinc.com)

## Generator Service Technician

Mayfair Power Systems, Long Island, NY's Leading generator co. is seeking an experienced generator technician. Capable of troubleshooting, repair and maintenance of diesel and gaseous generator sets and associated switch gear. Candidate must be a team player, have 3-5 yrs. experience, clean license and background. Excellent working environment. Benefits: health, dental, short /long term disability, 401k, paid vacation/holidays. Submit resume: [cgaahn@mayfairpower.com](mailto:cgaahn@mayfairpower.com)

## Generator Set Sales/Service

Experienced sales/service engineer needed by southern California company to sell engine generator sets. Please respond to [J.Kellough@EGSA.org](mailto:J.Kellough@EGSA.org) (Reference PLND06JB-1).

## Generator Field Technician

PM Technologies, LLC has several immediate openings for Generator Technicians. We are located and operate in Michigan, Ohio and Northern Indiana. High School diploma or equivalent a must. Military experience a plus. Must be able to troubleshoot and repair the engine (diesel and gaseous) as well as the generator end. Customer interaction will be required on a daily basis. We need highly motivated, self sufficient people to assist in growing our expansion efforts at new branch locations. Benefits include company vehicle, 401k, health, dental and vision coverage as well as paid bonuses for new account procurement. Please Fax resumes to 248.374.6408 or email to [dpopp@pmttech.org](mailto:dpopp@pmttech.org)

## Generator Field Technician-Experienced

Full-time experienced generator field technician opening in Ft. Lauderdale, FL. Requires advanced knowledge of standby generator systems with minimum 5 years experience. Working knowledge of 12 & 24 VDC controls. Company offers a full comprehensive benefits package. Competitive wage, company vehicle, laptop and cell phone for qualified candidates. Send resumes to [careers@acfpower.com](mailto:careers@acfpower.com) or fax to HR at 813-621-6980.

## Marketing Technician

Marathon Electric is looking for a Marketing Technician in our Wausau, WI headquarters. Marathon is a manufacturer of generators widely used in the Power Generation Industry. Responsibilities: Provide technical support to customers and web site inquiries. Technical Support includes supplying data sheets, drawings, submittal data and other sales documentation to support quotations and technical service, and answering incoming technical phone calls. Coordinate all electrical data interchange, web site maintenance and development. Provide consistency of all electronic and printed publications. Qualifications: 2 year university, trade or technical school or equivalent experience in rotating equipment. Email resume to [chuck.wirbinski@marathonelectric.com](mailto:chuck.wirbinski@marathonelectric.com)

## Generator Field Service Technicians

Kinsley Power Systems is hiring qualified Generator FSTs in various areas in the Northeast to perform local service on 8.5kW-2,500kW generators and transfer switches. The ideal candidates should possess previous technical experience working on Diesel/LP/Natural Gas engines and/or generators. Kohler, Generac, Caterpillar, Katolight, Cummins/Onan, experience preferred. Responsibilities include: Engine repairs, Engine & Electrical Diagnostics and Troubleshooting; Generator Start-ups and Preventative Maintenance. CRIMINAL CHECK, DRUG TEST and CLEAN DRIVING RECORD required. Competitive compensation and benefits. Email resumes to: [ktravers@kinsleypower.com](mailto:ktravers@kinsleypower.com)

## Generator Service Sales

Pacific Power Generation is seeking a qualified Generator Service Salesperson. We are an authorized full service Distributor for Kohler® Power Systems in Washington, Oregon, Alaska, Hawaii and the northern half of Idaho. We offer a full line of Kohler generators, switchgear, controls, and parts. The position will be based out of Kent, WA. Successful candidates will have a working knowledge of power generation equipment and a strong aptitude for sales. We offer a competitive compensation package which includes base pay, medical, dental, vision, short term disability, vacation, sick, holiday, 401K and more. If interested send resumes to [jadsaro@pacificpowergen.com](mailto:jadsaro@pacificpowergen.com). We are an Equal Opportunity Employer.

## Business Development Manager

Kinsley Power Systems (East Granby, CT) is looking to fill a new Co-Generator/Bio-Fuel Business Development position, which will be responsible for introducing MWM to the U.S. and getting this new venture off the ground. This top management, technical sales management position reports directly to the President. We are looking for Co-Gen experience; and a competitive, highly driven individual, who will be responsible for providing overall leadership, coordination, planning, development and execution of this new venture. ME or EE preferred, but will also consider a degreed individual with 20+ successful years in the business. Email resumes to [ktravers@kinsleypower.com](mailto:ktravers@kinsleypower.com).



Continued from page 39



Orion Energy Systems Inc. has raised an "urban wind" turbine to help offset the amount of energy consumed at the company's technology center.

nition Management System product lines, Marko Jovic will focus on developing and executing the strategy for expansion of the product segment in line with GAC's long-term vision.

Prior to joining GAC, Marko held roles in design, service and applications engineering with JLG Industries, McNeilus Companies, and Cummins MerCruiser Diesel in various capacities. For information, visit [www.governors-america.com](http://www.governors-america.com).

## Orion Energy Systems Raises "Urban Wind" Turbine

Orion Energy Systems Inc. has announced it has raised the first "urban wind" turbine in Wisconsin's Manitowoc County. "Urban wind" is the process of generating electricity through wind power to be used at an adjacent load center in an urban setting, significantly reducing the inefficiencies of transmitting and distributing electricity generated in rural areas. The Orion turbine was raised to help offset energy consumed at the company's technology center. Based on average wind speed, the 20-kilowatt wind turbine is expected to generate up to 32 megawatt-hours a year. The wind turbine was manufactured by Oshkosh, WI-based Renewegy.

"Urban wind is smart because the turbine is located at the load center, eliminating the need to transmit and distribute the power over long distances, which can result in the loss of up to 15 percent of the

energy," said Orion CEO Neal Verfuert.

Located within a half mile of the shores of Lake Michigan, the average wind speed at Orion's tech center is 13 mph. The turbine will begin spinning and generating electricity in less than 7 mph wind. Safety mechanisms prevent the three, 15-foot blades from exceeding 108 revolutions per minute, and automatically shut down the wind turbine in winds in excess of 56 mph.

Orion has deployed its energy management systems in 5,870 facilities across North America, including 123 of the Fortune 500 companies. Since 2001, Orion technology has displaced more than 551 megawatts, saving customers more than \$935 million and reducing indirect carbon dioxide emissions by 8 million tons.

Orion Energy Systems Inc. designs, manufactures and deploys energy management systems, consisting primarily of high-performance, energy-efficient lighting platforms, intelligent wireless control systems and direct renewable solar technology for commercial and industrial customers. For additional information, visit [www.oesx.com](http://www.oesx.com).

## Diesel Technology Forum to Host Free Biodiesel Webinar

The Diesel Technology Forum has announced it will host a free Biodiesel Policies and Mandates Webinar on September 16, 2010 at 10 a.m. (EDT). Biodiesel usage has grown significantly in recent years

and many states are considering legislation or programs to promote renewable fuels as a means of reducing U.S. dependence on fossil fuels. As the first state to implement a biodiesel mandate, Minnesota had its share of problems. Many of these have been overcome, yet additional challenges remain, as evidenced by Massachusetts' recent decision to postpone its mandate in favor of a voluntary program. The Webinar will address state efforts to encourage biodiesel use, the lessons they've learned and ideas for consideration from a European perspective. For more information or to register, visit [www.dieselforum.org](http://www.dieselforum.org)

## Valdez Joins Altronic, LLC

Altronic, LLC has announced that Rudy Valdez has joined the company as GTI EPIC Field Engineer. Valdez is responsible for worldwide start-up and technical/sales support for the Altronic-GTI Electronic Port



Rudy Valdez

Injection Control (EPIC) Bi-Fuel System, which is designed to enable medium- and slow-speed diesel engines to operate using natural gas as a primary fuel source.

Valdez has more than 20 years of experience in power plant operation, construction and commissioning, as well as extensive hands-on experience with large, slow-speed diesel engines. He holds a Diesel Engineer's license and a Steam Engineer's license from the state of California.

Most recently, he was employed by Colorado Energy Management as a Generation Coordinator for the City of Vernon, CA. His working career also includes 15 years with North American Energy Services (NAES), including positions in Jamaica, Panama, Honduras, and Los Angeles. For more information, visit [www.altronic-llc.com](http://www.altronic-llc.com).

## Wärtsilä Appoints New Vice President, Global R&D

Wärtsilä has announced it has appointed Trudy Schoolenberg, PhD, as Vice President, Global R&D. Prior to joining Wärtsilä, Schoolenberg spent 20 years

in a number of positions with Shell Chemicals. Most recently she served as General Manager, Strategy for Shell Chemicals in London, leading overall strategy and portfolio development. Previously she was Deputy Site Manager and Production Manager for Pernis Refinery, one of the biggest oil refineries in the world. Schoolenberg holds a B.Sc. in Industrial Design Engineering (Product Development) and a M.Sc. (with honours) in Mechanical Engineering and a PhD in Physics.

“Strong R&D with focus on energy efficiency is the cornerstone of Wärtsilä’s technological leadership. I am happy and proud to welcome Trudy Schoolenberg to further develop our work, benefitting both the customer and the environment,” said Lars Hellberg, Group Vice President, Industrial Operations. For information visit [www.wartsila.com](http://www.wartsila.com)

## Dresser Waukesha Names Hutchinson VP Aftermarket

Dresser Waukesha, a leading manufacturer of natural gas engines, has named Bob Hutchinson Vice President of Aftermarket. Hutchinson will be responsible for the ongoing development, management and growth of the company’s aftermarket business including sales of Genuine Waukesha Parts, product training and service.

Hutchinson comes to Dresser Waukesha from Cummins, Inc. where he was Vice President and General Manager – Parts and Service. During his 20-year tenure with



Bob Hutchinson

Cummins, Hutchinson held a series of progressively responsible positions that included plant manager, general manager of remanufacturing and various roles in aftermarket support. He began his career as a plant engineer at General Motors after graduating from the General Motors Institute with a degree in industrial engineering. He has a master’s degree in business administration from the University of Michigan.

Dresser Waukesha manufactures natural gas engines and packages engine-generator sets and DC switchgear controls for the distributed generation market. For information, visit [www.dresser.com/waukesha](http://www.dresser.com/waukesha)

## Saft Wins \$13 million U.S. Defense Contract

Saft has been awarded a \$13 million contract by the U.S. Defense Logistics Agency (DLA) to supply the U.S. Army, Navy, Air Force and Marine Corps with BA 5372/U lithium-manganese dioxide (Li-MnO<sub>2</sub>) batteries for portable military applications such as radio communication and electronics systems.

In other news, Saft has announced a three-year deal to work with Spain’s Acciona Energia SA as part of a Eurogia+ project aimed at integrating photovoltaic (PV) plants within the grid as conventional power plants by means of new control systems to be developed by Acciona Energia. It will also test new PV technologies with an eye towards reducing energy costs, improving grid stability and providing back-up power security. For information, visit [www.saftbatteries.com](http://www.saftbatteries.com). ■

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